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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,377	02/01/2007	Juichi Kubo	062284	9876
38834 7590 07/22/2011 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER MCNALLY, DANIEL				
ART UNIT 1747		PAPER NUMBER		
NOTIFICATION DATE 07/22/2011		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

# Office Action Summary

**Application No.**

10/572,377

**Applicant(s)**

KUBO ET AL.

**Examiner**

DANIEL MCNALLY

**Art Unit**

1747

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 May 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. In view of the appeal brief filed on 5/9/2011, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Richard Crispino/  
Supervisory Patent Examiner, Art Unit 1747.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claims 7-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 7 recites the limitation "the adhesive" in lines 3-4 and 5. There is insufficient antecedent basis for this limitation in the claim. It is recommended replacing "the" with --an--. Claims 8-11 and 13 depend from claim 7, require all the limitations of claim 7 and are rejected for the same reason. Claims 10, 11 also recite "the adhesive" and antecedent basis for the limitation can be provided by amending claim 7.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 3, 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swiggett et al. [US4693778, of record, previously cited, "Swiggett"] in view of Hisatsune [JP61-62575A, of record, previously cited, translation provided] and Ikushima et al. [WO02/103202A1, of record, previously cited, relying upon US2005/0063839 as an English equivalent, "Ikushima"].**

With respect to claim 1, Swiggett discloses an optical fiber wiring method (column 1, lines 10-13; column 2, lines 22-48). The method comprises feeding an optical fiber (conductor 32) to pass through a nozzle (guide housing 78) having an inner diameter larger than an outer diameter of the optical fiber (32), wherein the optical fiber (32) is coated with an adhesive (column 3, lines 26-40), and forming optical wiring on a

surface of a substrate by ejecting the adhesive coated optical fiber (32) (column 3, lines 5-26). Swiggett discloses a nozzle (78) feeding the adhesive coated optical fiber (32), but is silent as to obtaining the optical fiber coated with the adhesive on the fiber surface by simultaneously ejecting the optical fiber and the adhesive from the adhesive ejecting nozzle. Swiggett is therefore also silent as to the adhesive applied to the optical fiber being held constant by controlling an air pressure for pushing out the adhesive

Hisatsune discloses a method of applying an adhesive to a wire. The method comprises feeding a wire (3) to pass through an adhesive ejecting nozzle (nozzle device 5) having an inner diameter larger than an outer diameter of the wire (3) to thereby obtain the wire coated with the adhesive (4) on the fiber surface (Figure 2; page 2-3). Hisatsune discloses the adhesive (4) and wire (5) are simultaneously ejected from the nozzle (5). Hisatsune discloses the adhesive is uniformly applied to the wire, and the nozzle device is easy to operate and improves efficiency of the process (page 3). Hisatsune discloses an adhesive extruder (8) pushes the adhesive out of the nozzle (5) but is silent as to controlling an air pressure for pushing out the adhesive.

Ikushima discloses a method of delivering a fixed quantity of liquid from a nozzle. Ikushima discloses there are known alternative methods for controlling the amount of liquid that is delivered through the nozzle (paragraph 0002). One method uses a plunger type device (as is used in Hisatsune) wherein a plunger is moved to pressurize the liquid so that a desired amount of liquid is ejected from the nozzle. An alternative method uses an air type delivering device wherein air is applied at a regulated pressure

to the liquid in the reservoir vessel so that a desired amount of liquid is delivered from the nozzle.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Swiggett by obtaining the optical fiber coated with the adhesive on the fiber surface by simultaneously ejecting the optical fiber and the adhesive from the adhesive ejecting nozzle as taught by Hisatsune in order to improve the ease of operation and the efficiency of the process, and to modify the method of Swiggett and Hisatsune by controlling the air pressure for pushing out the adhesive rather than the plunger type device as the air pressure controller and plunger type device are taught as alternatives by Ikushima and a substitution of known alternatives to achieve a known result is within the purview of one of ordinary skill.

With respect to claims 3 and 4, Swiggett discloses the optical wiring is formed on the surface of the substrate by relative movement. Swiggett further discloses the relative movement of the substrate and the nozzle can be caused when the substrate is held fixed and the nozzle is moved horizontally, or when the nozzle is held fixed and the substrate is moved horizontally (column 3, lines 5-16).

With respect to claim 7, Swiggett discloses an optical fiber wiring apparatus. It is noted the optical fiber, the adhesive, and the substrate are not claimed as elements of the apparatus, and they do not limit the apparatus as they are considered to be the material worked upon. The apparatus comprises a nozzle (guide housing 78) having an inner diameter larger than an outer diameter of an optical fiber capable of feeding through an adhesive coated optical fiber, and a stage for supporting the material worked

upon, wherein the nozzle (78) and the stage are movable relative to each other (column 1, lines 10-13; column 2, lines 22-48, column 3, lines 5-40). Swiggett is silent as to the nozzle being a liquid material ejecting unit, and is silent as to a controller to control an air pressure for pushing out the adhesive.

Hisatsune discloses an apparatus for applying an adhesive to a wire. The apparatus comprises a liquid ejecting nozzle (nozzle device 5) having an inner diameter larger than an outer diameter of the wire (3) to obtain the wire coated with the adhesive (4) on the fiber surface (Figure 2; page 2-3). Hisatsune discloses the adhesive (4) and wire (5) are simultaneously ejected from the nozzle (5). Hisatsune discloses the adhesive is uniformly applied to the wire, and the nozzle device is easy to operate and improves efficiency of the process (page 3). Hisatsune discloses an adhesive extruder (8) pushes the adhesive out of the nozzle (5) but is silent as to a controller to control an air pressure for pushing out the adhesive.

Ikushima discloses an apparatus for delivering a fixed quantity of liquid from a nozzle. Ikushima discloses there are known alternative devices for controlling the amount of liquid that is delivered through the nozzle (paragraph 0002). One device is a plunger type device (as is used in Hisatsune) wherein a plunger is moved to pressurize the liquid so that a desired amount of liquid is ejected from the nozzle. An alternative device uses an air type delivering device wherein air is applied at a regulated pressure to the liquid in the reservoir vessel so that a desired amount of liquid is delivered from the nozzle.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Swiggett by including a liquid material ejecting unit with a liquid material ejecting nozzle as taught by as taught by Hisatsune in order to improve the ease of operation and the efficiency of the process; and to modify the apparatus of Swiggett and Hisatsune by substituting a controller for controlling the air pressure for pushing out the adhesive in place of a plunger type device, as the air pressure controller and plunger type device are taught as alternatives by Ikushima and a substitution of known alternatives to achieve a known result is within the purview of one of ordinary skill.

With respect to claims 8 and 9, Swiggett discloses relative movement of the substrate and the nozzle can be caused when the substrate is held fixed and the nozzle is moved horizontally, or when the nozzle is held fixed and the substrate is moved horizontally (column 3, lines 5-16).

**6. Claims 2, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swiggett, Hisatsune, Ikushima, and further in view of Keyworth et al. [US5534101, of record, previously cited, "Keyworth"].**

Swiggett as modified discloses a method and apparatus for optical fiber wiring. Applicant is referred to paragraph 5 for a detailed discussion of Swiggett as modified.

With regard to claims 2 and 11, Swiggett is silent as to a controller that controls the speed at which the wire is introduced. Keyworth discloses controlling the speed at which the nozzle is moved relative to the substrate, which will affect the rate at which



the optical fiber needs to be fed. If the nozzle is moving faster the optical fiber will also need to be fed faster and if the nozzle is moved slower the optical fiber would need to be fed slower. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of Swiggett to include a controller for controlling the speed at which the nozzle is moved which controls the feeding speed of the wire as taught by Keyworth in order to ensure accurate placement of the optical fiber on the substrate.

With regard to claim 10, Swiggett is silent as to including a UV lamp for capable of curing the adhesive. Keyworth disclose dispensing an adhesive coating that is UV curable and using a UV lamp to cure the adhesive (column 4, lines 1-21 and lines 38-48). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Swiggett by including a UV lamp to cure the adhesive as taught by Keyworth in order to quickly cure the adhesive holding the wire to the substrate.

With regard to claims 12 and 13, Hisatsune discloses a wire is passed through a storage section connected to the nozzle where the adhesive is stored. Hisatsune is silent as to the storage section being connected to an air pipe for feeding air to the liquid in the storage section. Hisatsune discloses a plunger is contacting the adhesive, and Ikushima discloses the plunger can be substituted with an air pressure controller. Keyworth discloses a device that dispenses a liquid using an air pressure controller (28) (column 4, lines 1-21). Keyworth appears to show in Figure 1 a pipe running from the controller (28) to the dispenser (18). It would have been obvious to one of ordinary skill

in the art at the time of invention to modify the method and apparatus to comprise an air pipe as taught by Keyworth in order to supply air from the controller to the dispenser.

**7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swiggett, Hisatsune, Ikushima, and further in view of Hawkins [US3742107, of record, previously cited].**

Swiggett as modified discloses a method for optical fiber wiring. Applicant is referred to paragraph 5 for a detailed discussion of Swiggett as modified. Swiggett disclose an optical fiber but is silent as to a polymer optical fiber. Hisatsune discloses a polymer wire can be used, but is silent as to the wire being an optical fiber.

Hawkins discloses a method of making an optical fiber. Hawkins discloses glass fibers are well known, however polymeric optic fibers can be used and have the added benefit of increased strength and flexibility (column 1, lines 10-20).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Swiggett by using a polymeric optical fiber as taught by Hawkins in order to increase the strength and flexibility of the optical fiber.

**8. Claims 6, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swiggett, Hisatsune, Ikushima, and further in view of Yamaguchi et al. [US20010011413, of record, previously cited, "Yamaguchi"].**

Swiggett as modified discloses a method and apparatus for optical fiber wiring. Applicant is referred to paragraph 5 for a detailed discussion of Swiggett as modified.

Swiggett is silent as to the adhesive being UV curable or including a UV lamp for curing the adhesive.

Yamaguchi discloses a method of wiring a substrate. The method comprises using a UV curable adhesive to secure a wire to a substrate and curing the adhesive by applying UV light after the wire is applied to the substrate (paragraph 0126).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of Swiggett by using a UV curable adhesive and curing the adhesive by applying UV light as taught by Yamaguchi in order to quickly cure the adhesive holding the wire to the substrate.

**9. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swiggett, Hisatsune, Ikushima, and further in view of Inaba et al. [US2002/0112821, of record, previously cited, "Inaba"].**

Swiggett as modified discloses a method and apparatus for optical fiber wiring. Applicant is referred to paragraph 5 for a detailed discussion of Swiggett as modified. Hisatsune discloses a wire is passed through a storage section connected to the nozzle where the adhesive is stored. Hisatsune is silent as to the storage section being connected to an air pipe for feeding air to the liquid in the storage section. Hisatsune discloses a plunger is contacting the adhesive, and Ikushima discloses the plunger can be substituted with an air pressure controller, but Ikushima is silent as to the air pressure controller comprising a pipe connected to the dispenser.

Inaba discloses a method and apparatus for applying an adhesive. Inaba discloses a syringe (113) with a nozzle (112) for dispensing the adhesive. Inaba discloses the amount of adhesive dispensed from the nozzle is determined by the air pressure supplied to the syringe. Inaba further discloses a pipe (passage 116) for supplying air from the air supply to the syringe to press out the adhesive (paragraphs 0003-0004).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of Swiggett by including an air pipe connected to the storage section as taught by Inaba in order to allow air pressure to force an amount of adhesive from the nozzle.

**10. Claims 1, 3, 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatsune in view of Swiggett and Ikushima.**

With respect to claim 1, Hisatsune discloses a method of applying a wire. The method comprises feeding a wire (3) to pass through an adhesive ejecting nozzle (nozzle device 5) having an inner diameter larger than an outer diameter of the wire (3) to thereby obtain the wire coated with the adhesive (4) on the fiber surface, and forming the wiring on a surface of a substrate (1) by simultaneously ejecting the wire and the adhesive (Figure 2; page 2-3). Hisatsune discloses the adhesive is uniformly applied to the wire, and the nozzle device is easy to operate and improves efficiency of the process (page 3). Hisatsune disclose the wire can be any of plastic, paper and metal, but is silent as to the wire being an optical fiber. Hisatsune discloses an adhesive

extruder (8) pushes the adhesive out of the nozzle (5) but is silent as to controlling an air pressure for pushing out the adhesive.

Swiggett discloses a method for applying conductor wiring to a substrate. Swiggett discloses the conductor wiring may be wires for electrical conduction or optical fiber for conducting light (column 1, lines 10-13). The method comprises feeding an optical fiber through a guide onto a substrate where it is bonded with an adhesive to form the optical wiring.

Ikushima discloses a method of delivering a fixed quantity of liquid from a nozzle. Ikushima discloses there are known alternative methods for controlling the amount of liquid that is delivered through the nozzle (paragraph 0002). One method uses a plunger type device (as is used in Hisatsune) wherein a plunger is moved to pressurize the liquid so that a desired amount of liquid is ejected from the nozzle. An alternative method uses an air type delivering device wherein air is applied at a regulated pressure to the liquid in the reservoir vessel so that a desired amount of liquid is delivered from the nozzle.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Hisatsune by applying a wire that is an optical fiber as taught by Swiggett as a substitution of known wire types to achieve a known desired result is within the purview of one of ordinary skill, and to modify the method of Hisatsune by controlling the air pressure for pushing out the adhesive rather than the plunger type device as the air pressure controller and plunger type device are taught as

alternatives by Ikushima and a substitution of known alternatives to achieve a known result is within the purview of one of ordinary skill

With respect to claims 3 and 4, Hisatsune is silent as to which of the nozzle and substrate is stationary and which of the nozzle and substrate is moved. Swiggett discloses the optical wiring is formed on the surface of the substrate by relative movement. Swiggett further discloses the relative movement of the substrate and the nozzle can be caused when the substrate is held fixed and the nozzle is moved horizontally, or when the nozzle is held fixed and the substrate is moved horizontally (column 3, lines 5-16). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Hisatsune by moving either of the nozzle or substrate as taught by Swiggett in order to apply the wire to the substrate in a pattern.

With respect to claim 7, Hisatsune discloses an apparatus capable of wiring an optical fiber. It is noted the optical fiber, the adhesive, and the substrate are not claimed as elements of the apparatus, and they do not limit the apparatus as they are considered to be the material worked upon. The apparatus comprises a liquid material ejecting unit provided with a liquid material ejecting nozzle (5) having an inner diameter larger than an outer diameter of the wire and allowing the wire and adhesive to be simultaneously fed through the nozzle (Figure 2, pages 2-3). Hisatsune is silent as to a stage for supporting the substrate onto which the wire is applied, wherein the liquid material ejecting unit and stage are movable. Hisatsune discloses an extruder/plunger

(8) to control pressure for pushing out the adhesive but is silent as to a controller for controlling the air pressure for pushing out the adhesive.

Swiggett discloses an apparatus for applying an optical fiber to a substrate. The apparatus comprises a wire dispensing head and a stage. The stage and dispensing head are movable relative to each other to apply the fiber to a substrate.

Ikushima discloses an apparatus for delivering a fixed quantity of liquid from a nozzle. Ikushima discloses there are known alternative devices for controlling the amount of liquid that is delivered through the nozzle (paragraph 0002). One device is a plunger type device (as is used in Hisatsune) wherein a plunger is moved to pressurize the liquid so that a desired amount of liquid is ejected from the nozzle. An alternative device uses an air type delivering device wherein air is applied at a regulated pressure to the liquid in the reservoir vessel so that a desired amount of liquid is delivered from the nozzle.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Hisatsune to include a stage that is movable relative to the liquid material ejecting unit as taught by Swiggett in order to apply the optical fiber over a pattern on the surface of a substrate held by the stage, and to modify the apparatus of Hisatsune by using an air pressure controller rather than the plunger as the air pressure controller and plunger type device are taught as alternatives by Ikushima and a substitution of known alternatives to achieve a known result is within the purview of one of ordinary skill.

With regard to claims 8 and 9, Swiggett discloses the apparatus is capable of relative movement between a dispenser and a substrate and be caused by either fixing the substrate and moving the dispenser, or fixing the dispenser and moving the substrate (column 3, lines 5-16).

**11. Claims 2, 10, 11, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatsune, Swiggett and Ikushima, and further in view of Keyworth.**

Hisatsune as modified disclose a method and apparatus for applying wiring to a substrate. Applicant is referred to paragraph 10 for a detailed discussion of Hisatsune as modified.

With regard to claims 2 and 11, Hisatsune is silent as to a controller that controls the speed at which the wire is introduced. Keyworth discloses controlling the speed at which the nozzle is moved relative to the substrate, which will affect the rate at which the optical fiber needs to be fed. If the nozzle is moving faster the optical fiber will also need to be fed faster and if the nozzle is moved slower the optical fiber would need to be fed slower. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of either one of Hisatsune to include a controller for controlling the speed at which the nozzle is moved which controls the feeding speed of the wire as taught by Keyworth in order to ensure accurate placement of the optical fiber on the substrate.



With regard to claim 10, Hisatsune is silent as to including a UV lamp for capable of curing the adhesive. Keyworth disclose dispensing an adhesive coating that is UV curable and using a UV lamp to cure the adhesive (column 4, lines 1-21 and lines 38-48). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the apparatus of Hisatsune by including a UV lamp to cure the adhesive as taught by Keyworth in order to quickly cure the adhesive holding the wire to the substrate.

With regard to claims 12 and 13, Hisatsune discloses a wire is passed through a storage section connected to the nozzle where the adhesive is stored. Hisatsune is silent as to the storage section being connected to an air pipe for feeding air to the liquid in the storage section. Hisatsune discloses a plunger is contacting the adhesive, and Ikushima discloses the plunger can be substituted with an air pressure controller. Keyworth discloses a device that dispenses a liquid using an air pressure controller (28) (column 4, lines 1-21). Keyworth appears to show in Figure 1 a pipe running from the controller (28) to the dispenser (18). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus to comprise an air pipe as taught by Keyworth in order to supply air from the controller to the dispenser.

**12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatsune, Swiggett and Ikushima, and further in view of Hawkins.**

Hisatsune as modified discloses a method for applying optical wiring to a substrate. Applicant is referred to paragraph 10 for a detailed discussion Hisatsune as

modified. Hisatsune discloses a polymer wire can be used, and Swiggett disclose an optical fiber but is silent as to a polymer optical fiber.

Hawkins discloses a method of making an optical fiber. Hawkins discloses glass fibers are well known, however polymeric optic fibers can be used and have the added benefit of increased strength and flexibility (column 1, lines 10-20).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method of Hisatsune by using a polymeric optical fiber as taught by Hawkins in order to increase the strength and flexibility of the optical fiber.

**13. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatsune, Swiggett and Ikushima, and further in view of Yamaguchi.**

Hisatsune as modified disclose a method and apparatus for applying wiring to a substrate. Applicant is referred to paragraph 10 for a detailed discussion of Hisatsune as modified. Hisatsune is silent as to the adhesive being UV curable or including a UV lamp for curing the adhesive.

Yamaguchi discloses a method of wiring a substrate. The method comprises using a UV curable adhesive to secure a wire to a substrate and curing the adhesive by applying UV light after the wire is applied to the substrate (paragraph 0126). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of Hisatsune by using a UV curable adhesive and curing the adhesive by applying UV light as taught by Yamaguchi in order to quickly cure the adhesive holding the wire to the substrate.

**14. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hisatsune, Swiggett and Ikushima, and further in view of Inaba.**

Hisatsune as modified discloses a method for applying optical wiring to a substrate. Applicant is referred to paragraph 10 for a detailed discussion Hisatsune as modified. Hisatsune discloses a wire is passed through a storage section connected to the nozzle where the adhesive is stored. Hisatsune is silent as to the storage section being connected to an air pipe for feeding air to the liquid in the storage section. Hisatsune discloses a plunger is contacting the adhesive, and Ikushima discloses the plunger can be substituted with an air pressure controller, but Ikushima is silent as to the air pressure controller comprising a pipe connected to the dispenser.

Inaba discloses a method and apparatus for applying an adhesive. Inaba discloses a syringe (113) with a nozzle (112) for dispensing the adhesive. Inaba discloses the amount of adhesive dispensed from the nozzle is determined by the air pressure supplied to the syringe. Inaba further discloses a pipe (passage 116) for supplying air from the air supply to the syringe to press out the adhesive (paragraphs 0003-0004).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the method and apparatus of Hisatsune by including an air pipe connected to the storage section as taught by Inaba in order to allow air pressure to force an amount of adhesive from the nozzle.

***Response to Arguments***

15. Applicant's arguments filed 5/9/2011 have been fully considered but they are not persuasive.

Applicant argues Hisatsune is not analogous prior art. Hisatsune solves the problem of applying a wire to a substrate efficiently, by simultaneously ejecting adhesive and wire through a nozzle to coat the wire with adhesive and apply the coated wire to a substrate. Hisatsune is solving the same problem as the claimed invention, therefore it is analogous prior art.

Applicant argues even if Ikushima is combined with Swiggett and Hisatsune the same result will not be obtained. Hisatsune discloses a uniform amount of adhesive is applied to the wire and controls the pressure on the adhesive using a plunger type device. Ikushima discloses plunger type devices and air pressure controllers are alternatives. By substituting the plunger type device of Hisatsune with the air pressure controller of Ikushima the same results as the claimed invention will be achieved.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MCNALLY whose telephone number is (571)272-2685. The examiner can normally be reached on Monday - Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DANIEL McNALLY/  
Examiner, Art Unit 1747

DPM  
July 15, 2011

/Richard Crispino/  
Supervisory Patent Examiner, Art Unit 1747